



VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of U.G.C. Act, 1956)

School of Computer Science and Engineering

J Component report

Programme : B.Tech CSE

Course Title : Internet And Web Programming

Course Code : CSE3002

Slot : F1

Title : Edpoint

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28.4.2022

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Abstract

This project aims to provide a one stop solution for the students by providing basic tools for students a discussion forum study materials tutorial videos a chat feature and a virtual assistant which helps students to find what they need. This platform will be very helpful for students as they will get all their requirements under one space. The website will also enable students to learn efficiently with no hassle.

Tools Used

Below listed are the tools used in the project:

1) Firebase:

It is a NoSQL Backend-As-A-Service (BAAS), that allows users to connect that projects and set-up backend services such as Authentication, Cloud storage, Realtime analytics, Database management etc.

It has been used in our project to implement Authentication and Cloud Storage for the files.

2) HTML:

HTML (HyperText Markup Language) is the code that is used to structure a web page and its content. For example, content could be structured within a set of paragraphs, a list of bulleted points, or using images and data tables. It is the basic skeleton one uses when designing the front-end of their project.

It has been used to give structure to all the web-pages in our project.

3) CSS:

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. They are descriptive codes used to describe how a webpage should look like. It is used to decorate the front-end.

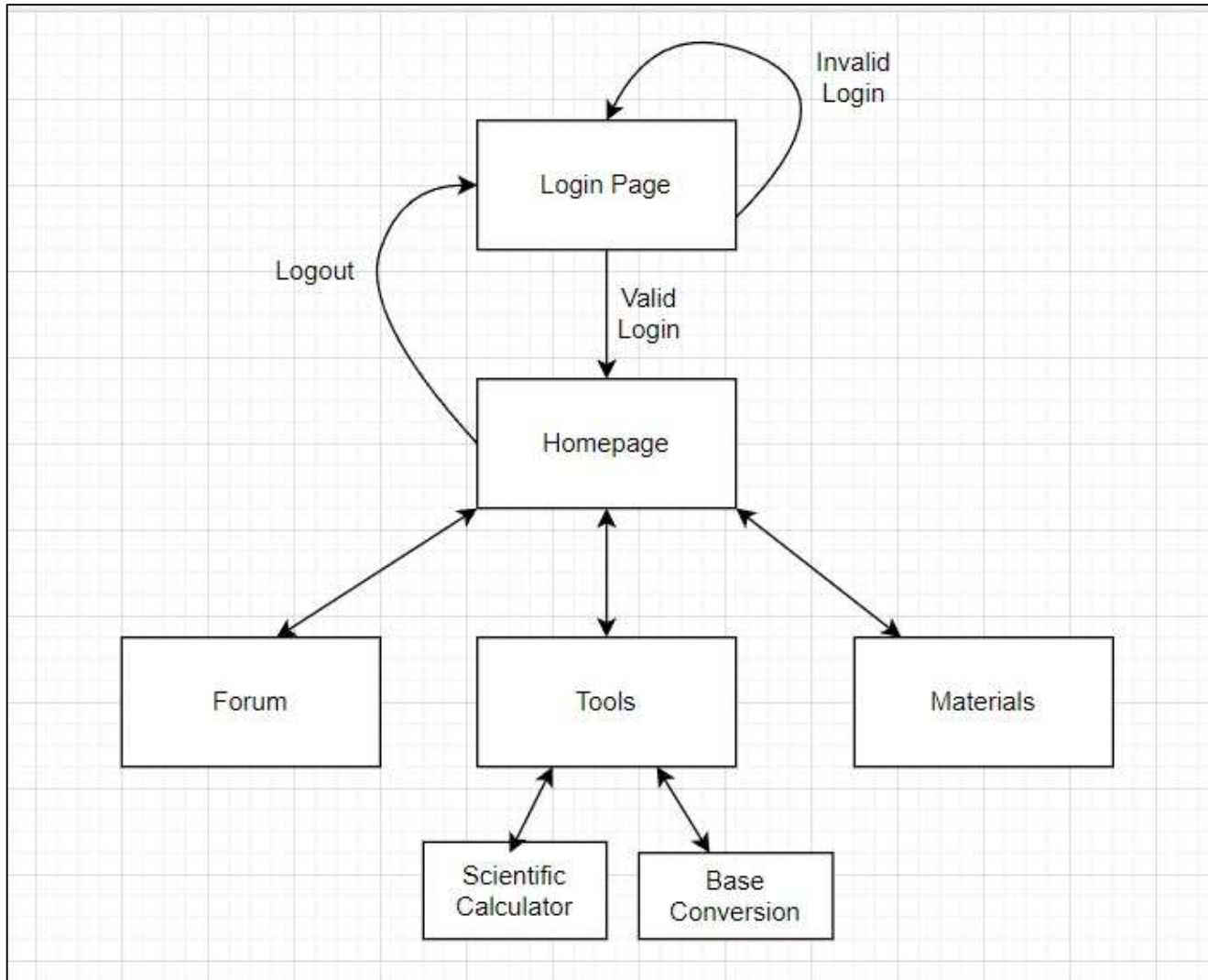
It has been used to format the various elements of the webpage.

4) JavaScript:

JavaScript is a scripting or programming language that allows you to implement complex features on web pages. It is a scripting language that enables you to create dynamically updating content, control multimedia, animate images etc. It is used to code the logic of the front end as well as convert a static page into a dynamic page.

It has been used to write the logic of various dynamic elements of the page such as the logic of the assistant, of the calculator, various tools etc.

Block Diagram



Project Modules

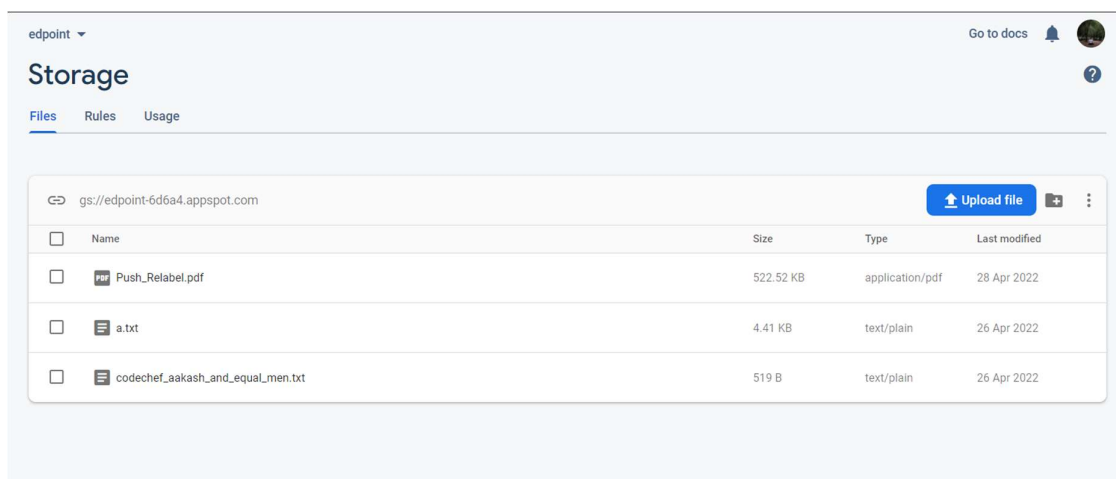
- Homepage: This is the page where users are provided with options to navigate in the website.
- Authentication: This module take care about the verification part and allows the user to access the website.
- AI chat bot: This bot will be present in every page of the website and assist the user if they have an issue.
- Forum: It is a panel for open discussion.
- Tools: Users can access basic computational tools like scientific calculator, base converter.
- Materials: In this module the users can access the study materials which will be in the form of videos, images, files and links.

Code Features

Below Stated are some of the code features of the project:

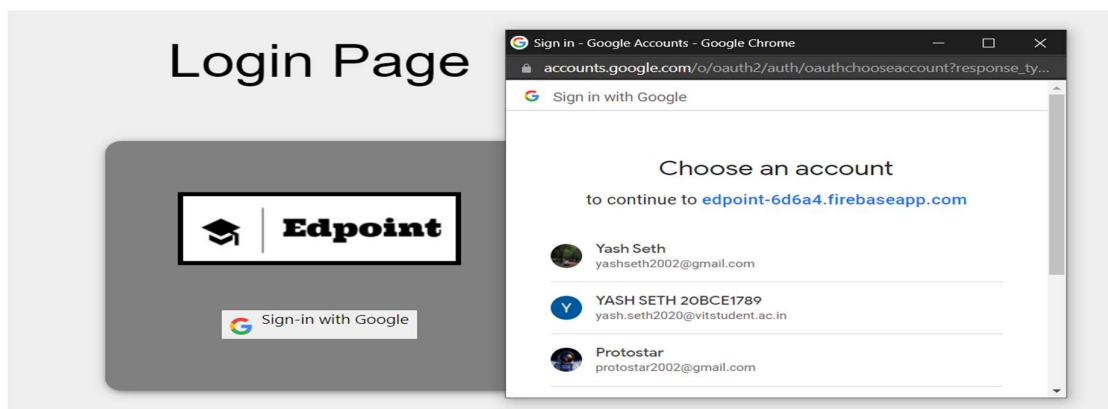
1) Database:

The database used for the project is Firebase. It is a NoSQL document-based database. Thus, there is not a schema and it allows for querying of data. It can be accessed using the Firebase console. Below is an image to display the database:



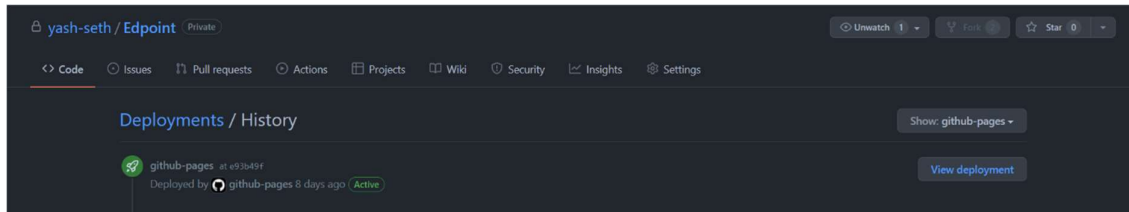
2) Authentication:

The authentication used in the project is a Firebase backend service. It provides a login portal which allows users to login onto our platform if they have a valid Google account. Below is an image to depict the login:



3) Hosting:

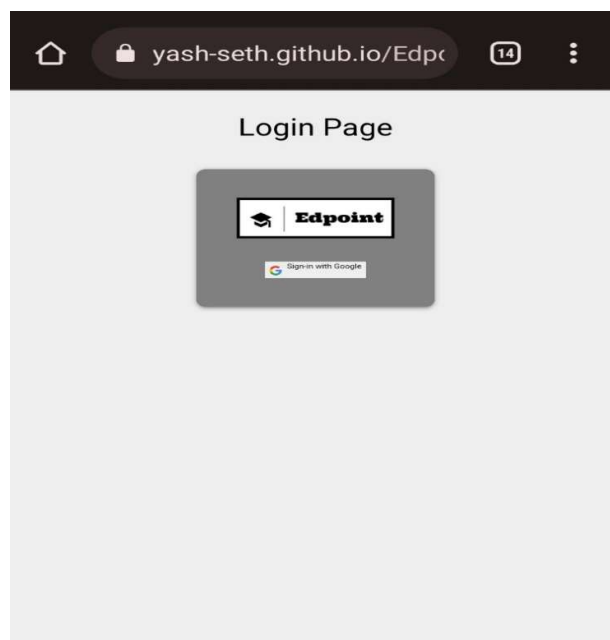
The platform has been hosted using Github pages. This allows the platform to be accessible from anywhere in the world on any device.



4) Responsive Design:

The front-end has been developed in a manner that allows the content to be viewed properly irrespective of window size and device it is being viewed on.

Below is an image of the website being accessed on a mobile device:



Sample Codes

Login Page:

```
login.html > html > body
32 <h2>Login Page</h2>
33 <br />
34 <div class="login">
35 <form id="login">
36 
37 <br /><br />
38
39 <div class="col s12 m6 offset-m3 center-align">
40 <!-- <a
41 class="oauth-container btn darken-4 white black-text"
42 href="homepage.html"
43 style="text-transform: none; font-family: 'Rubik', sans-serif"
44 > -->
45 <button onclick="login()">
46 <div class="left">
47 
53 </div>
54 Sign-in with Google
55 <!-- </a> -->
56 </button>
57 </div>
58 <!-- Compiled and minified CSS -->
59 <link
60 rel="stylesheet"
61 href="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0-beta/css/materialize.min.css"
62 />
63 <!-- Compiled and minified JavaScript -->
64 <script src="https://cdnjs.cloudflare.com/ajax/libs/materialize/1.0.0-beta/js/materialize.min.js"></script>
65 </form>
66 </div>
67 <script src="https://www.gstatic.com/firebasejs/8.2.5/firebase-app.js"></script>
68 <script src="https://www.gstatic.com/firebasejs/8.2.5/firebase-auth.js"></script>
```

Homepage:

```
homepage.html > html > body > script > submit_query
278 
284 <br />
285 <h3>Large Collection of Materials</h3>
286 <br />
287 <p>
288 We provide a large collection of study materials and resources for
289 the preparation of the students.
290 </p>
291 </div>
292 <div class="f2" style="height: 320px; background-color: lightgreen">
293 <br />
294 
300 <br />
301 <h3>Large Community of Students and Teachers</h3>
302 <br />
303 <p>
304 Be assured that you will have someone willing to help you out with
305 your doubts! We have a large community of students and teachers, who
306 are here to help you and discuss your doubts!
307 </p>
308 </div>
309 <div
310 class="f3"
311 style="height: 320px; background-color: lightgoldenrodyellow"
312 >
313 <br />
314  html > body > div.app_body > div.question_form > div.new_form > form
87     class="assistantInput"
88     id="queryType"
89     value=""
90     style="width: 350px"
91   /><br />
92   <textarea
93     class="assistantInput"
94     placeholder="Enter your query here"
95     value=""
96     id="query"
97     style="resize: none; height: 200px; width: 400px"
98   ></textarea>
99   ><br />
100   <a style="text-decoration: none" href="" id="submitForm"
101     ><button class="assistantInput" onclick="submit_query()">
102       Submit</button>
103     ><br />
104   /></a>
105   <button onclick="chatControls()" class="assistantInput">Close</button>
106 </div>
107 </div>
108
109
110 <div class="container" style="text-align: center;background-color: lightcoral;">
111   <div class="navbar" style="display: inline-block;background-color: lightcoral;">
112     <a href="homepage.html" style="text-decoration: none;"></a>
114   </div>
115 </div>
116
117
118
119
120
121 <div class="navbar">
122   <h1> Discussion Forum </h1>
123 </div>
124 <div class="ann bodu">
```

Forum – logic:

```
JS forum_logic.js > ...
120 // Resolve the ques i.e. delete it
121
122 function resolver() {
123   const ques = ques_list.querySelectorAll('li');
124   ques_details = ques_details.filter((q) => {
125     return q.id != curr_ques_id
126   })
127   renderQues(ques_details);
128   localStorage.setItem('ques_details', JSON.stringify(ques_details));
129   init();
130 }
131
132 // Filter the ques
133
134 search.addEventListener('keyup', () => {
135   const term = search.value.toLowerCase().trim();
136   if(term == "") {
137     renderQues(ques_details);
138   }
139   else {
140     // Deep copy
141     ques_details_copy = JSON.parse(JSON.stringify(ques_details));
142
143     let filteredArr = ques_details_copy.filter((ques) => {
144       return ques.title.toLowerCase().includes(term) || ques.question.toLowerCase().includes(term);
145     });
146
147     let regex = new RegExp(term,"i");
148     filteredArr = filteredArr.map((q) => {
149       q.title = q.title.split(' ').map((word) =>highlightOccurrences(word, term)).join(' ');
150       q.question = q.question.split(' ').map((word) =>highlightOccurrences(word, term)).join(' ');
151       return q;
152     })
153     if(filteredArr.length)
154       renderQues(filteredArr);
155     else
156       renderNoMatchFound();
157   }
158 }
```

Tools:

```
tools.html > html > head > style > .assistantInput
153 <input type="text" placeholder="Enter your query type" class="assistantInput" id="queryType" value="" style="width: 350px" /><br />
154 <textarea class="assistantInput" placeholder="Enter your query here" value="" id="query" style="resize: none; height: 200px; width: 400px" />
155 </div>
156 <a style="text-decoration: none" href="" id="submitForm"
157 ><button class="assistantInput" onclick="submit_query()">
158 Submit</button>
159 </a>
160 </div>
161 <button onclick="chatControls()" class="assistantInput">Close</button>
162 </div>
163 </div>
164
165 <div
166 class="container"
167 style="text-align: center; background-color: lightcoral"
168 >
169 <div class="navbar" style="display: inline-block">
170 <a href="homepage.html" style="text-decoration: none"
171 ></a>
172 </div>
173 </div>
174 <br />
175 <br />
176 <h1 class="c1">EdPoint Tools</h1>
177 <div>
178 <br /><br /><br />
179 <div class="c2" style="margin: 0 auto">
180 <a href="scal.html"><b>Scientific Calculator</b></a>
181 </div>
182 <br /><br /><br /><br />
183 <div class="c3" style="margin: 0 auto">
184 <a href="baseconversion.html"><b>Base Converter</b></a>
185 </div>
186 </div>
187 <br /><br />
188 <a href="homepage.html" style="text-decoration: none">
189 <div style="text-align: center"><button>Go back</button></div>
Ln 18, Col 8 Spaces: 2 UTF-8 CRLF HTML Go Live Prettier
```

Scientific Calculator:

```
scal.html > html > body > div > table > tr > id#scicout > div
199 value="rad" onClick="degreeRadians='radians';">Rad</label></span></div>
200 <div><span onclick="r('asin')" class="scifunc">sin<sup>-1</sup></span><span onclick="r('acos')"
201 class="scifunc">cos<sup>-1</sup></span><span onclick="r('atan')"
202 class="scifunc">tan<sup>-1</sup></span><span onclick="r('pi')" class="scifunc">&#960;</span><span
203 onclick="r('e')" class="scifunc">e</span></div>
204 <div><span onclick="r('pow')" class="scifunc">x<sup></sup></span><span onclick="r('x3')"
205 class="scifunc">x<sup>3</sup></span><span onclick="r('x2')" class="scifunc">x<sup>2</sup></span><span
206 onclick="r('ex^1')" class="scifunc">e<sup>x</sup></span><span onclick="r('10x^1')"
207 class="scifunc">10<sup>x</sup></span></div>
208 <div><span onclick="r('apow')" class="scifunc"><sup></sup></span><span onclick="r('3x^1')"
209 class="scifunc"><sup>3</sup></span><span onclick="r('sqrt')" class="scifunc">&#8730;x</span><span
210 onclick="r('ln')" class="scifunc">ln</span><span onclick="r('log')" class="scifunc">log</span></div>
211 <div><span onclick="r('(')" class="scifunc"></span><span onclick="r(')')" class="scifunc"></span><span
212 onclick="r('1/x')" class="scifunc">1/x</span><span onclick="r('1/x^2')" class="scifunc">1/x<sup>2</sup></span><span
213 onclick="r('1/x^3')" class="scifunc">1/x<sup>3</sup></span></div>
214 </div>
215 <div style="padding-top: 3px;">
216 <div><span onclick="r('2')" class="scim">2</span><span onclick="r('0')" class="scim">0</span><span onclick="r('9')"
217 class="scim">9</span><span onclick="r('+' )" class="sciop">+</span><span onclick="r('MS^1')"
218 class="sciop">MS</span></div>
219 <div><span onclick="r('4')" class="scim">4</span><span onclick="r('5')" class="scim">5</span><span onclick="r('6')"
220 class="scim">6</span><span onclick="r('-' )" class="sciop">-</span><span onclick="r('M^1')"
221 class="sciop">M</span></div>
222 <div><span onclick="r('1')" class="scim">1</span><span onclick="r('2')" class="scim">2</span><span onclick="r('3')"
223 class="scim">3</span><span onclick="r('+' )" class="sciop">+</span><span onclick="r('M^1')"
224 class="sciop">M</span></div>
225 <div><span onclick="r('0')" class="scim">0</span><span onclick="r('.)'" class="scim">.</span><span
226 onclick="r('EXP^1')" class="sciop">EXP</span><span onclick="r('1/x^2')" class="sciop">1/x<sup>2</sup></span><span
227 onclick="r('MR^1')" class="sciop">MR</span></div>
228 <div><span onclick="r('1/x^3')" class="sciop">1/x<sup>3</sup></span><span onclick="r('RND^1')" class="sciop">RND</span><span
229 onclick="r('C^1')" class="scieq">C</span><span onclick="r('1/x^4')" class="scieq">1/x<sup>4</sup></span><span onclick="r('MC^1')"
230 class="scieq">MC</span></div>
231 </div>
232 </tr>
233 </tr>
234 <tr>
235 </tr>
236 </table>
Ln 214, Col 13 Spaces: 2 UTF-8 CRLF HTML Go Live Prettier
```

Base Conversion Tools (1 of 4):

```
conversion.html > html > body > div.container
266       <br>
267       Ans <input type="text" name="t2">
268     </form>
269   </div>
270   <div class="c2" style="display:inline-block;">
271     <form name="f2">
272       <h1> Decimal to Octal </h1>
273       Input <input type="text" name="t3">
274       <br>
275       <br>
276       <input type="button" value="convert" onclick="octal()">
277       <br>
278       <br>
279       Ans <input type="text" name="t4">
280     </form>
281   </div>
282   <div class="c3" style="display:inline-block;">
283     <form name="f3">
284       <h1> Decimal to Hexa </h1>
285       Input<input type="text" name="t5">
286       <br>
287       <br>
288       <input type="button" value="convert" onclick="hexa()">
289       <br>
290       <br>
291       Ans <input type="text" name="t6">
292     </form>
293   </div>
294 </div>
295 <a href="baseconversion.html" style="text-decoration: none">
296 <div style="text-align:center"><button>Go back</button></div>
297 </a>
298 </body>
299 </html>
300
```

Materials:

```
materials.html > html > head > body > div.container > div.questContainer.row > div.col-sm-12 > div.card-w-100 > div.card-body > div.image-main.card-text > div.row
233 <div class="questContainer row">
234   <div class="col-sm-12" style="margin-top: 10px;">
235     <div class="card w-100">
236       <div class="card-body">
237         <div style="box-shadow: 0 2px 4px solid;" class="image-main card-text"><br><br>
238           <div class="row">
239             <div class="col-md-9">
240               <iframe
241                 src="https://drive.google.com/embeddedfolderview?id=1yNNq5twd3SbWMO_00ul89KFTgrNee3K#grid"
242                 style="width:100%; height:600px; border:0;"></iframe>
243             </div>
244           </div>
245         </div>
246       </div>
247     </div>
248   </div>
249 </div>
250 <div class="col-sm-12" style="margin-top: 10px;">
251   <div class="card w-100">
252     <div class="card-body">
253       <div style="box-shadow: 0 2px 4px solid;" class="image-main card-text"><br><br>
254         <div class="row">
255           <div class="col-md-9">
256             <iframe
257               src="https://drive.google.com/embeddedfolderview?id=13177XtkWK98V07oINy687ygH9bhaNnMR#grid"
258               style="width:100%; height:600px; border:0;"></iframe>
259           </div>
260         </div>
261       </div>
262     </div>
263   </div>
264 </div>
265 </div>
266 </div>
267 </div>
268 <div style="text-align:center">
269   <input type="file" id="file">
270   <input type="text" id="fileName" placeholder="Enter file name">
```

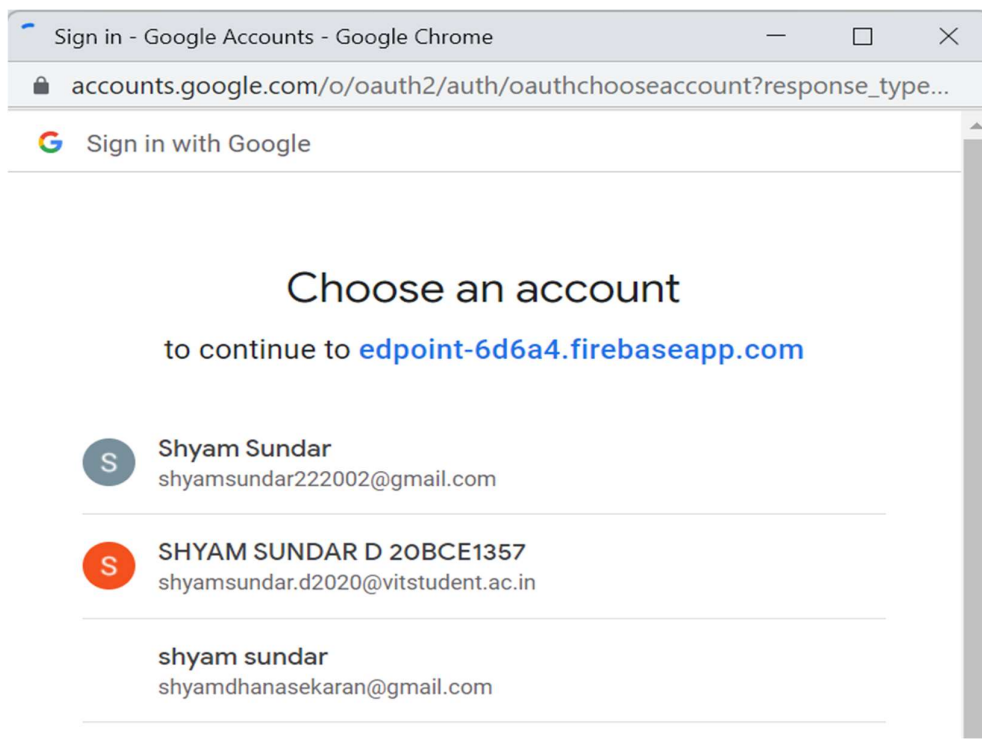
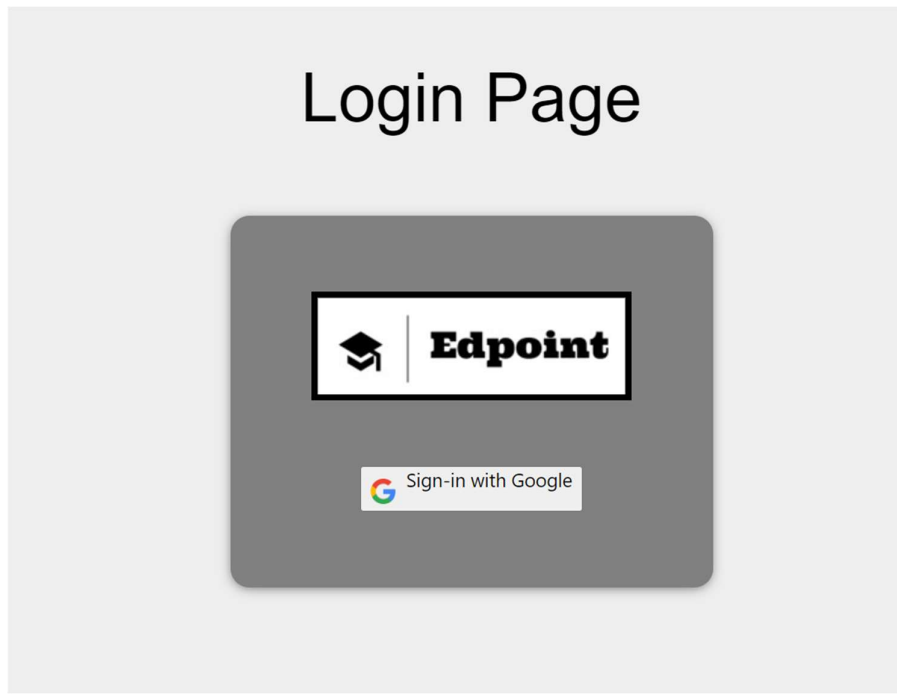
Backend Configuration:

```
js app.js > ...
1  const firebaseConfig = {
2    apiKey: "AIzaSy80ggNUM15VGbmlkpMS5NtQi4695HSAnBA",
3    authDomain: "edpoint-6d6a4.firebaseio.com",
4    projectId: "edpoint-6d6a4",
5    storageBucket: "edpoint-6d6a4.appspot.com",
6    messagingSenderId: "732595810972",
7    appId: "1:732595810972:web:5c7cd0b7a444da7c04b359",
8  };
9
10 firebase.initializeApp(firebaseConfig);
11
12 function login() {
13
14   const auth = firebase.auth();
15
16   const googleAuth = new firebase.auth.GoogleAuthProvider();
17   event.preventDefault();
18   firebase
19     .auth()
20     .signInWithPopup(googleAuth)
21     .then((result) => {
22       // var user = result.user;
23       // console.log(user);
24       window.location.href = "homepage.html";
25     })
26     .catch(function (error) {
27       console.log(error.message);
28     });
29 }
30
31 function uploadMaterials(fileName) {
32   const ref = firebase.storage().ref();
33
34   const file = document.querySelector("#file").files[0];
35
36   const name = file.name;
37
38   const metadata = { contentType: file.type };
```

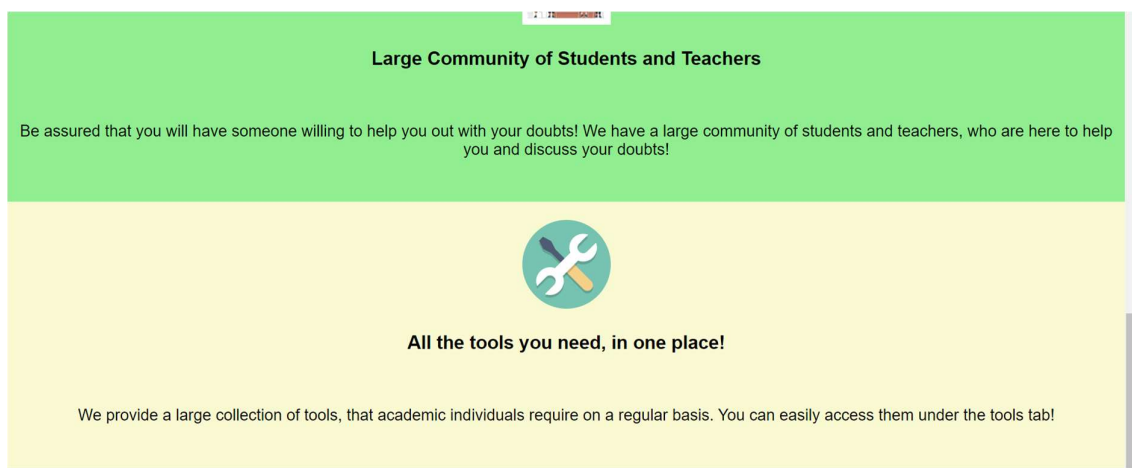
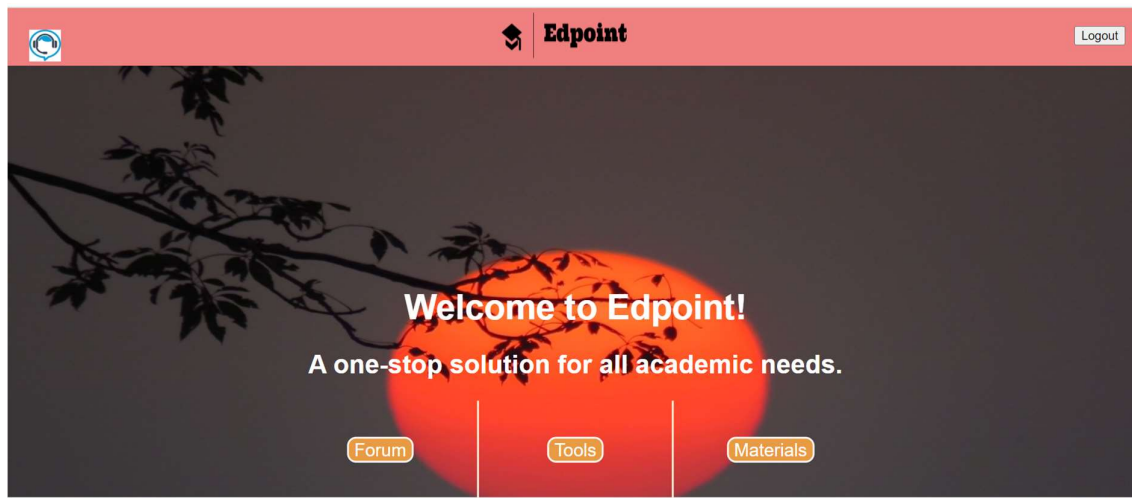
Ln 10, Col 40 Spaces: 2 UTF-8 CRLF {} JavaScript Go Live Prettier

Output Screen

- **LOGIN PAGE:**



HOME PAGE:



TOOLS:



EdPoint Tools

Scientific Calculator

Base Convertor

[Go back](#)

Scientific calculator:



[Go back](#)

Base convertor:



[Decimal to...](#)

[Binary to...](#)

[Octal to...](#)

[Hexadecimal to...](#)

Decimal to Binary

Input

Convert

Ans

Decimal to Octal

Input

Convert

Ans

Decimal to Hexa

Input

Convert

Ans

Go back

Binary to decimal

Input

Convert

Ans

Binary to octal

Input

Convert

Ans

Binray to hexa

Input

Convert

Ans

Go back

Octal to decimal

Input

convert

Ans

Octal to binary

Input

convert

Ans

Octal to hexadecimal

convert

Go back

hexadecimal to decimal

Input

Ans

Convert

hexadecimal to binary

Input

Ans

Convert

hexadecimal to octal

Input

Ans

Convert

Go back

MATERIALS:

SEARCH FOR THE MATERIAL YOU WANT HERE

Go back

AB _ Concepts_of_...

ALexander Sadiku.pdf

EVS Kaushik and K...

EVS Taylor and Mill...

EVS Taylor and Mill...

Book 1 - Cormen - In...

Book 4 - Tardos - Al...

Book 5 - Weiss-C-e...

Book 6 - Weiss-CPP...

Book 7 - Michael T. ...

Book 8 - Data Struct...

C The Complete Ref...

Discrete-Mathematic...

To upload materials by the user:

Choose File

No file chosen

Enter file name

Add materials

Uploaded materials from Users

FORUM:

Discussion Forum

New Question form

search questions...

CS
what is html?

EC
WHAT IS CIRCUIT?

Welcome to Discussion Portal

Enter a subject and question to get started

Subject

Question

Submit

To create a new question in forum:

Welcome to Discussion Portal

Enter a subject and question to get started

EEE

WHAT IS LED?

Submit

Discussion Forum

[New Question form](#)

CS
what is html?

EC
WHAT IS CIRCUIT?

EEE
WHAT IS LED?

Welcome to Discussion Portal

Enter a subject and question to get started

[Submit](#)

Question page:

Question

cs ☆
what is html?
▲ 1 ▼ 0

[Resolve](#)

Responses

ss
Hypertext Markup Language
▲ 2 ▼ 0

Add Response

New Question form

search questions...

CS

what is html?

EC

WHAT IS CIRCUIT?

EEE

WHAT IS LED?

Question

cs ☆

what is html?

1 0

Resolve

Responses

ss

Hypertext Markup Language

2 0

Add Response

Enter Name

Enter Comment

To add response:

Add Response

sagar

html |

Submit

Question

cs ☆

what is html?

▲ 1 ▼ 0

Resolve

Responses

ss

Hypertext Markup Language

▲ 2 ▼ 0

sagar

html

▲ 0 ▼ 0

Upvotes/Downvotes:

Question

cs ☆
what is html?
▲ 1 ▼ 0

Resolve

Responses

sagar
html
▲ 3 ▼ 0

ss
Hypertext Markup Language
▲ 2 ▼ 0

To resolve a question:

Discussion Forum

[New Question form](#)

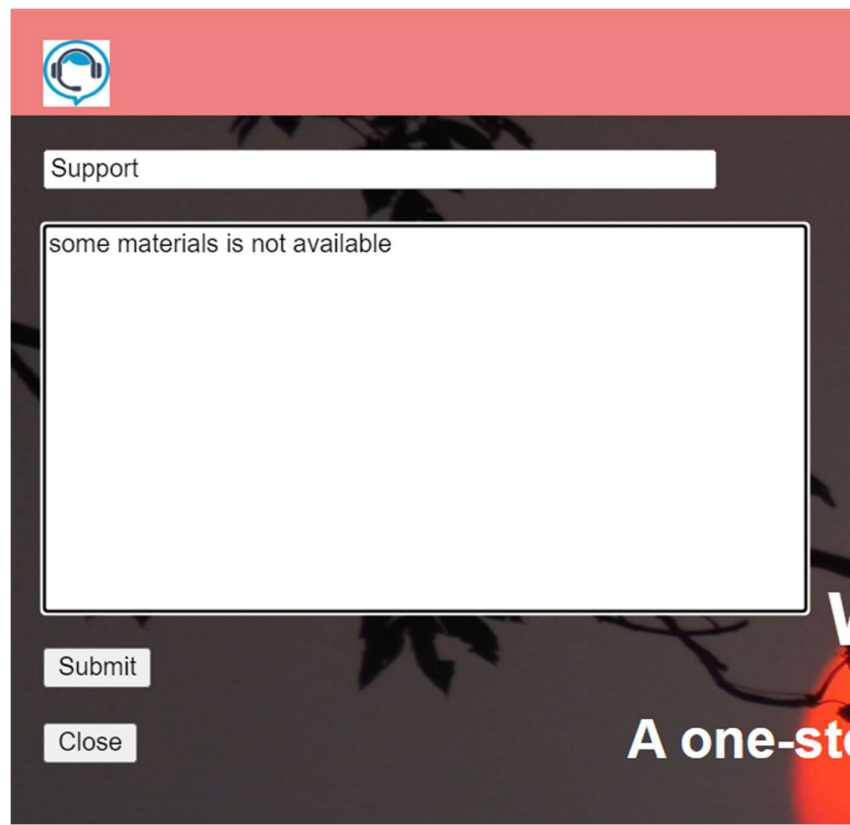
EC
WHAT IS CIRCUIT?

EEE
WHAT IS LED?

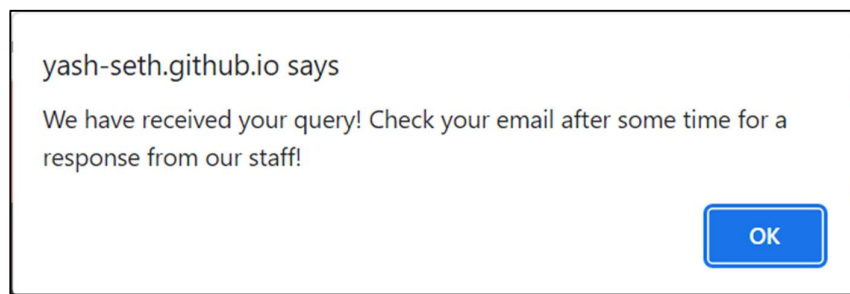
Welcome to Discussion Portal
Enter a subject and question to get started

Submit

To send a query to admin:



A screenshot of a web-based support form. At the top left is a blue circular icon with a white headset. Below it is a text input field containing the word "Support". Underneath the input field is a large, empty text area. At the bottom left of the form are two buttons: "Submit" and "Close". On the right side, there is a large, partially visible text "A one-sto" in white font. The background of the form is dark with some faint, abstract patterns.



A confirmation message box with a white background and a thin black border. It contains the text "yash-seth.github.io says" followed by "We have received your query! Check your email after some time for a response from our staff!". At the bottom right is a blue button with the text "OK".